



**Adult and Adolescent Spectrum of HIV Disease (ASD)
Annual Summary Report
1989-2001**

January 2003



**Los Angeles County Department of Health Services
HIV Epidemiology Program**

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Introduction

The Adult/Adolescent Spectrum of Disease (ASD) study is a U.S. Centers for Disease Control and Prevention (CDC)–sponsored medical records-based project designed to evaluate trends in the clinical course, treatment and health care utilization of persons living with HIV infection in Los Angeles County (LAC). LAC is one of the 10 sites in the U.S. that was selected to participate in the study beginning in 1990. Data are collected from the medical records of HIV-infected patients who are 13 years of age or older and receiving medical care at two public and one private HIV clinic in LAC. These clinics provide routine care to HIV-infected patients and are among the largest HIV clinics in the county, reporting 18% of all AIDS cases in 2001. These clinics were selected to be representative of the types of facilities providing HIV care in Los Angeles County and include the Rand Schrader and the Maternal, Child and Adolescent (MCA) HIV Clinics at the Los Angeles County-USC Medical Center, the Gildon Beall HIV Clinic at the Harbor-UCLA Medical Center, and the Kaiser-Sunset HIV Clinic, part of the private Kaiser health maintenance organization. A private medical practice, the Beer Medical Group, was also included in the project until January 2001. Originally, ASD enrolled all HIV-infected persons at each site. However early on it was recognized that gay and bisexual men and whites were more than adequately represented in ASD, and minorities, women and injection drug users (IDUs) were underrepresented. In January 1992, ASD added LAC-USC Medical Center as a site where only women were enrolled. In addition, beginning in February 1992, only women, minorities and IDUs were enrolled at Kaiser Sunset and the Beer Medical Group. All HIV-infected persons from the other public facility, Harbor-UCLA, continue to be enrolled. In September 2001, all sampling was discontinued because women and minorities had become over-represented when ASD was compared to AIDS surveillance records for LAC and other data on HIV-infected persons in care.

Trained nurses and medical records technicians review medical records for basic demographic data; HIV risk information; AIDS-defining conditions; other infections and conditions; treatment and prophylaxis data; and laboratory data that includes CD4⁺ lymphocyte counts and viral load measurements. The medical records of individual patients are abstracted every 6-months. The mean number of months of follow-up in ASD is 34 months. Although designed to be representative of persons receiving medical care for HIV infection in LAC, the study is not population-based and therefore may not be generalizable to all patients receiving HIV care in LAC.

This annual report includes a description of the demographic characteristics of patients with clinical visits during the last 2 years; summaries of AIDS-defining and non-AIDS defining conditions; and trends in treatment, mortality and health care utilization. A list of publications on the national and Los Angeles ASD data is also included. If you have further questions regarding the ASD study, please contact the HIV Epidemiology Program at 213-351-8196.

Table 1. Demographic Characteristics of ASD Patients with Visits in the Past 24 Months¹

Characteristics	Male		Female		All	
	n	%	n	%	n	%
Age (at enrollment)						
13-19	3	0%	21	4%	24	2%
20-29	156	16%	141	29%	297	20%
30-39	459	48%	179	37%	638	44%
40-49	260	27%	105	21%	365	25%
50+	87	9%	43	9%	130	9%
Race/Ethnicity						
White	224	23%	53	11%	277	19%
African-American	279	29%	148	30%	427	29%
Latino	398	41%	273	56%	671	46%
Asian/Pacific Islanders	52	5%	9	2%	61	4%
AN/AI	8	1%	4	1%	12	1%
Other/Unknown	4	0%	2	0%	6	0%
HIV Risk Category						
MSM	637	66%	-	--	637	44%
IDU	63	7%	71	15%	134	9%
MSM/IDU	63	7%	-	--	63	4%
Heterosexual	45	5%	219	45%	264	18%
Others	27	3%	32	7%	59	4%
Unknown	130	13%	167	34%	297	20%
Country of Birth						
US	574	59%	217	44%	791	54%
US Dependency	9	1%	1	0%	10	1%
Foreign-born:	312	32%	258	53%	570	39%
(Mexico)	(183)	(59%)	(120)	(47%)	(303)	(53%)
(Central America)	(42)	(13%)	(97)	(38%)	(139)	(24%)
(Asian/PI)	(40)	(13%)	(7)	(3%)	(47)	(8%)
(Other/Unknown)	(47)	(15%)	(34)	(13%)	(81)	(14%)
Unknown	70	7%	13	3%	83	6%
Site of Care						
Harbor UCLA	589	61%	126	26%	715	49%
Kaiser Sunset	333	35%	31	6%	364	25%
LAC/USC	8	1%	323	66%	331	23%
BEER	35	4%	9	2%	44	3%
Total	965	66%	489	34%	1,454	100%
Vital Status at Most Recent Interval²						
Alive and active	700	15%	382	30%	1,082	18%
Dead	1,998	43%	343	27%	2,341	40%
Relocated/Lost/Unkwn	1,864	40%	509	41%	2,373	40%
BEER ³	108	2%	21	2%	129	2%
Total	4,670	100%	1,255	100%	5,925	100%

¹ Includes the time period 01/01/2000 to 12/31/2001.

² Totals include all ASD patients.

³ Active BEER patients at the end of BEER's participation in ASD in January 2001.

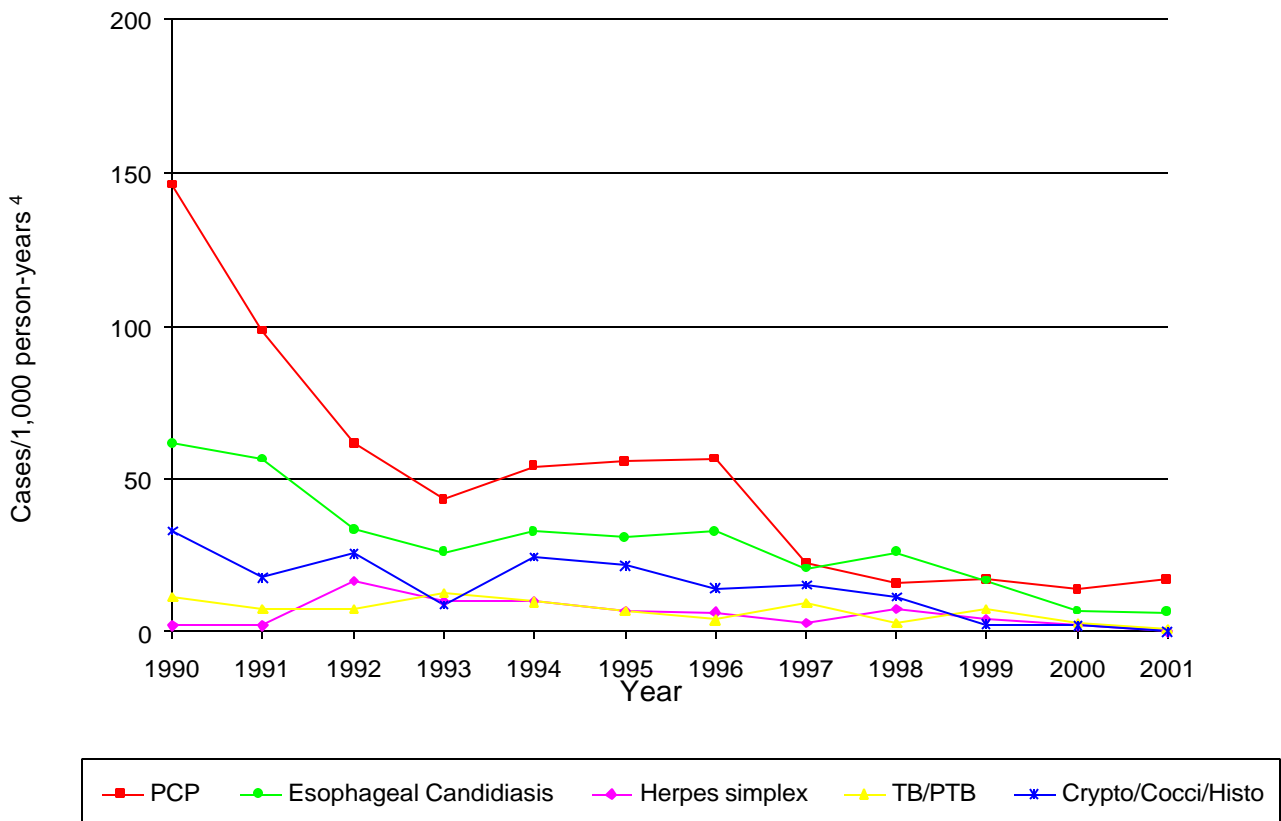
Table 2. AIDS Indicator Conditions¹ for All ASD Patients in the Pre (1989-1995) and Post (1996-2001) HAART Era

Indicator Condition	1989-1995 (N=4,467)		1996-2001 (N=2,229)	
	N	%	N	%
Candidiasis, bronchi, trachea, or lungs	10	0.2%	2	0.1%
Candidiasis, esophageal	369	8.3%	185	7.6%
Invasive cervical cancer	1	0.0%	5	0.2%
Coccidioidomycosis, disseminated or extrapulmonary	12	0.3%	10	0.4%
Cryptococcosis, extrapulmonary	199	4.5%	103	4.2%
Cryptosporidiosis, chronic intestinal	149	3.3%	24	1.0%
Cytomegalovirus disease other than retinitis	238	5.3%	85	3.5%
Cytomegalovirus retinitis	378	8.5%	88	3.6%
HIV encephalopathy	234	5.2%	73	3.0%
Herpes simplex: chronic ulcers, pneumonitis or esophagitis	95	2.1%	33	1.4%
Histoplasmosis, disseminated or extrapulmonary	31	0.7%	18	0.7%
Isosporiasis, chronic intestinal	31	0.7%	13	0.5%
Kaposi's sarcoma	456	10.2%	111	4.6%
Lymphoma, Burkitt's	7	0.2%	3	0.1%
Lymphoma, immunoblastic	62	1.4%	26	1.1%
Lymphoma, primary in brain	36	0.8%	14	0.6%
Mycobacterium avium or M. kansasii, disseminated	442	9.9%	98	4.0%
M. tuberculosis, pulmonary	40	0.9%	54	2.2%
M. tuberculosis, disseminated or extrapulmonary	127	2.8%	48	2.0%
Mycobacterium, other or unidentified species	37	0.8%	19	0.8%
Pneumocystis carinii pneumonia	992	22.2%	342	14.1%
Pneumonia, recurrent	1	0.0%	22	0.9%
Progressive multifocal leukoencephalopathy	29	0.6%	13	0.5%
Salmonella septicemia, recurrent	5	0.1%	2	0.1%
Toxoplasmosis of the brain	139	3.1%	46	1.9%
Wasting syndrome	640	14.3%	188	7.7%
CD < 200 ul ²	845	18.9%	449	18.5%

¹ Based on the 1993 AIDS case definition.

² Includes only those without any other AIDS-defining condition.

Figure 1. Trends in PCP¹, Esophageal Candidiasis¹, Herpes Simplex¹, TB^{1,2}/PTB^{1,3} and Cryptococcosis/Coccidioidomycosis/Histoplasmosis¹, 1990-2001



¹ OIs present at entry into care are excluded. Multiple episodes of OIs are counted. This is a methodological change from the previous report.

² TB: Disseminated or Extrapulmonary TB.

³ PTB: Pulmonary TB.

⁴ The denominator in this figure was changed since the last report from the total number of immunosuppressed persons to all HIV-infected persons in ASD.

Figure 2. Trends in MAC¹, KS¹, Wasting Syndrome¹, CMV¹ and CMV Retinitis¹, 1990-2001

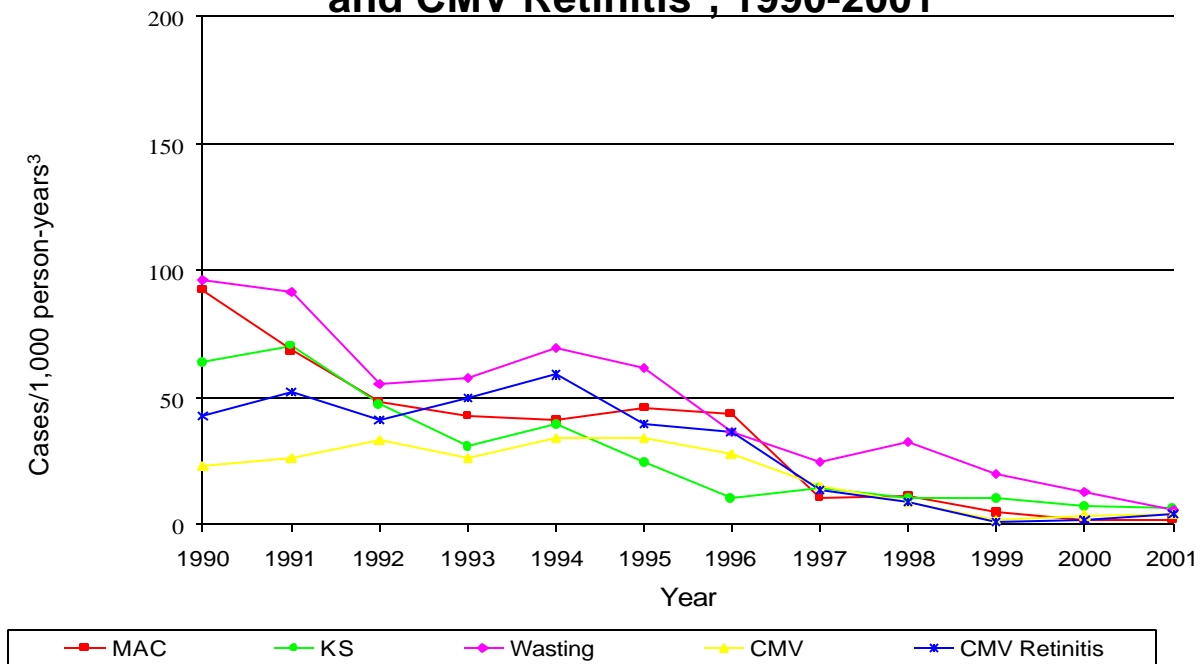
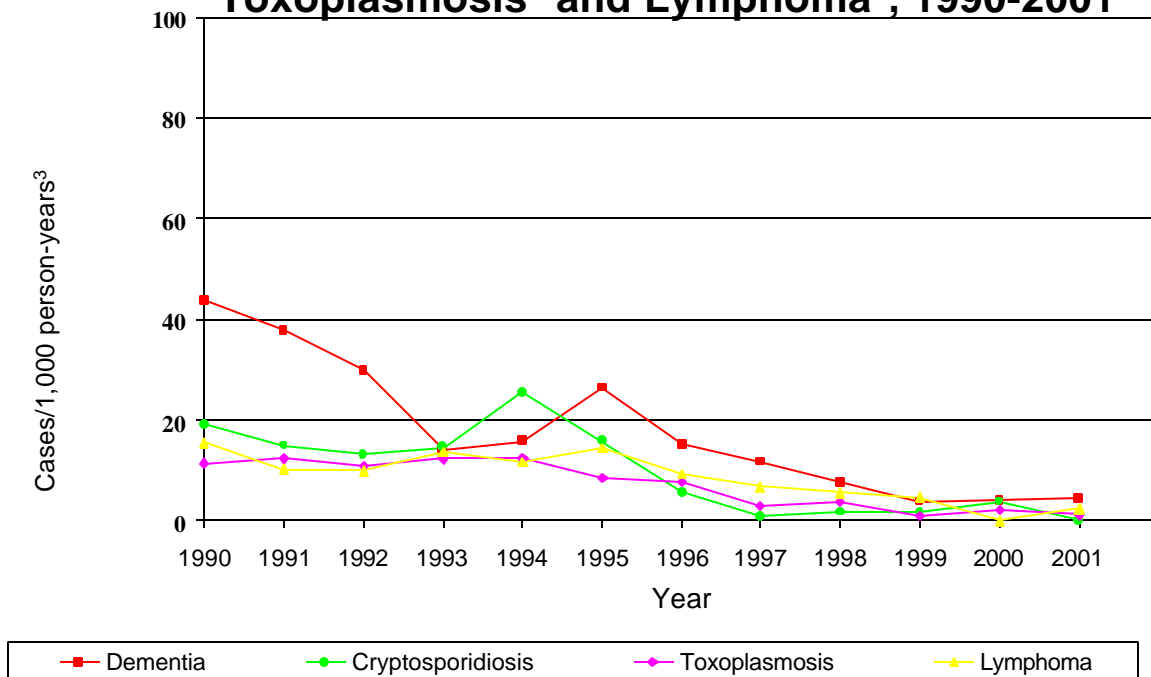


Figure 3. Trends in Dementia², Cryptosporidiosis¹, Toxoplasmosis¹ and Lymphoma², 1990-2001



¹ OIs present at entry into care are excluded. Multiple episodes of OIs are counted. This is a methodological change from the previous report.

² Only first occurrence is counted for patients with more than one episode.

³ The denominator in these figures were changed since the last report from the total number of immunosuppressed persons to all HIV-infected persons in ASD.

Table 3. Other Infections¹ Present in >= 5% of Patients (N=1,454²), 1989-2001

Infection	N	%
Skin infection (excludes genital infection, Herpes zoster, syphilis)	551	38%
Thrush	515	35%
Genital/vaginal/cervical/penile infection or ulcer	507	35%
Bronchitis	413	28%
Tinea infection	344	24%
Upper respiratory infection	311	21%
Oral cavity/perioral (includes stomatitis, aphthous ulcer)	297	20%
Urinary tract infection (UTI)	291	20%
Herpes zoster/shingles	278	19%
Sinusitis/mastoiditis (infectious)	276	19%
Condyloma acuminatum	250	17%
Diarrhea (infectious)	213	15%
Hepatitis	213	15%
Gastrointestinal infection/gastritis	192	13%
Rectal infection (includes abscess or ulcer)	173	12%
Pharyngitis	169	12%
Pneumonia	168	12%
Syphilis	150	10%
Oral hairy leukoplakia	112	8%
Warts (excludes genital/condyloma)	110	8%
Otitis	100	7%
Eye infection	80	6%

¹ Includes conditions that are not part of the 1993 AIDS case definition.

² Includes only persons whose date of last contact was within the last 24 months. (01/01/2000-12/31/2001)

Table 4. Other Non-Infectious Conditions¹ Present in >= 5% of Patients (N=1,454²), 1989-2001

Non-Infectious Condition	N	%
Dermatitis	591	41%
Depression	576	40%
Fatigue	376	26%
Neuropathy,peripheral	363	25%
Drug-related conditions	349	24%
Headache	307	21%
Diarrhea	282	19%
Non-IV drug abuse	277	19%
Hypertension	277	19%
Weight loss,unspecified	261	18%
Weight loss,>10 lbs or 10%	258	18%
Lymphadenopathy	237	16%
Fever	223	15%
Sinusitis	186	13%
Nausea	185	13%
Alcohol abuse	180	12%
Pregnancy	180	12%
Night sweats	168	12%
Anxiety	144	10%
Visual disturbances	144	10%
Diabetes	127	9%
Anergy	110	8%
Vomiting	102	7%
Psychosis(includes schizophrenia)	96	7%
Nephropathy/renal failure	91	6%
Abnormal liver function	86	6%
Injection drug use	74	5%
Thrombocytopenia	73	5%

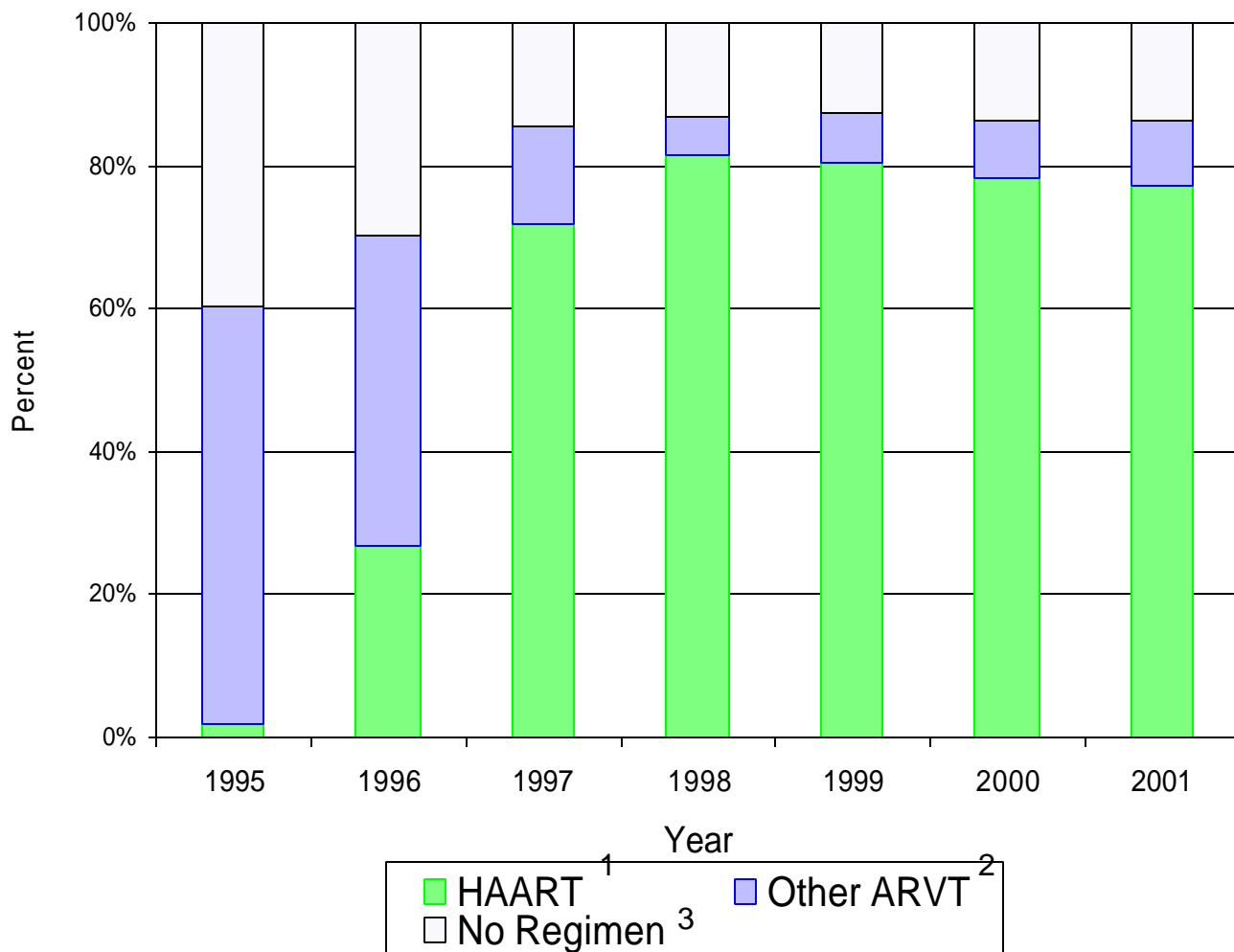
¹ Includes conditions that are not part of the 1993 AIDS case definition.

² Includes only persons whose date of last contact was within the last 24 months. (01/01/2000-12/31/2001)

Table 5. Primary Malignant Neoplasms, All Patients, 1989-2001 (N=5,925)

Neoplasm Site	Total N	N with CD4 Data	Mean CD4 at Neo. Dx.	Mean Age at Neoplasm Dx.
Anorectal	15	12	309	43
Brain	6	<5	68	41
Breast	6	5	216	50
Bone	5	5	182	47
Endocrine	<5	<5	425	35
Esophagus	0			
Genitourinary, Female	31	27	243	34
Genitourinary, Male	8	7	236	52
Heart/mediastinum	0			
Intestine/colon	9	6	241	44
Leukemia	0			
Liver/gall bladder/pancreas	6	5	114	42
Lymphoma	31	23	108	38
Lung	25	20	172	45
Myeloma	<5	<5	331	40
Oral cavity/pharynx	11	10	135	41
Renal (kidney, bladder)	5	<5	482	54
Respiratory, upper	10	8	86	43
Respiratory, lower	<5	<5	246	55
Skin (other than KS)	58	53	246	45
Stomach	<5	<5	186	44
Other	6	<5	318	42

Figure 4. Antiretroviral Therapy Regimens Prescribed to ASD Patients, 1995-2001



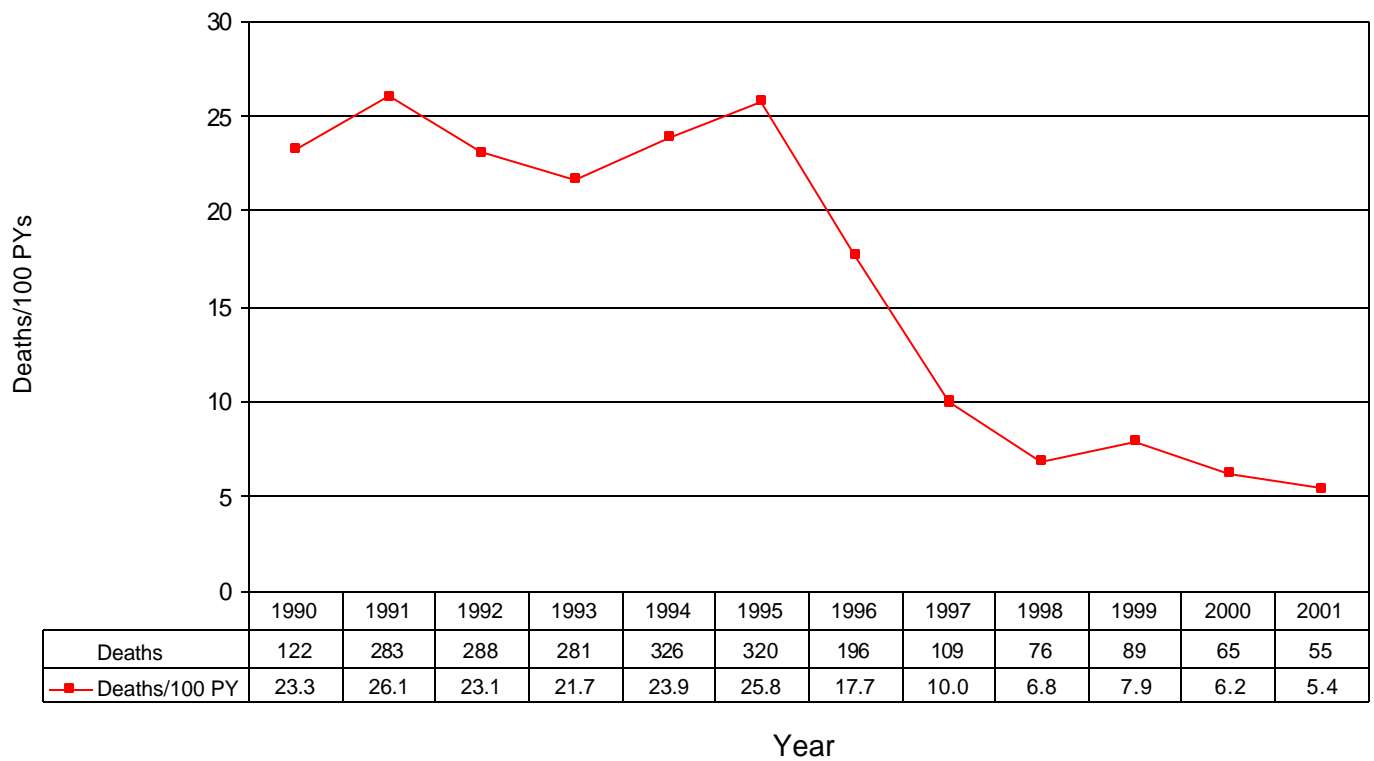
¹ HAART regimen is defined as

- a) ≥ 3 drugs including a protease inhibitor (PI).
- b) ≥ 3 drugs including a non-nucleoside reverse transcriptase inhibitor (NNRTI)
- c) 3 drugs including nucleoside/nucleotide reverse transcriptase inhibitor (NRTI) that includes abacavir or tenofovir.

² Other antiretroviral therapy includes other combinations which do not qualify as a HAART regimen.

³ No antiretroviral therapy regimen prescribed.

Figure 5. Mortality Rate (per 100 Person-Years) for HIV-Infected Persons Enrolled in ASD, 1990-2001



**Figure 6. Health Service Utilization (per person per year)
by Range of Lowest CD4, 1990-2001**

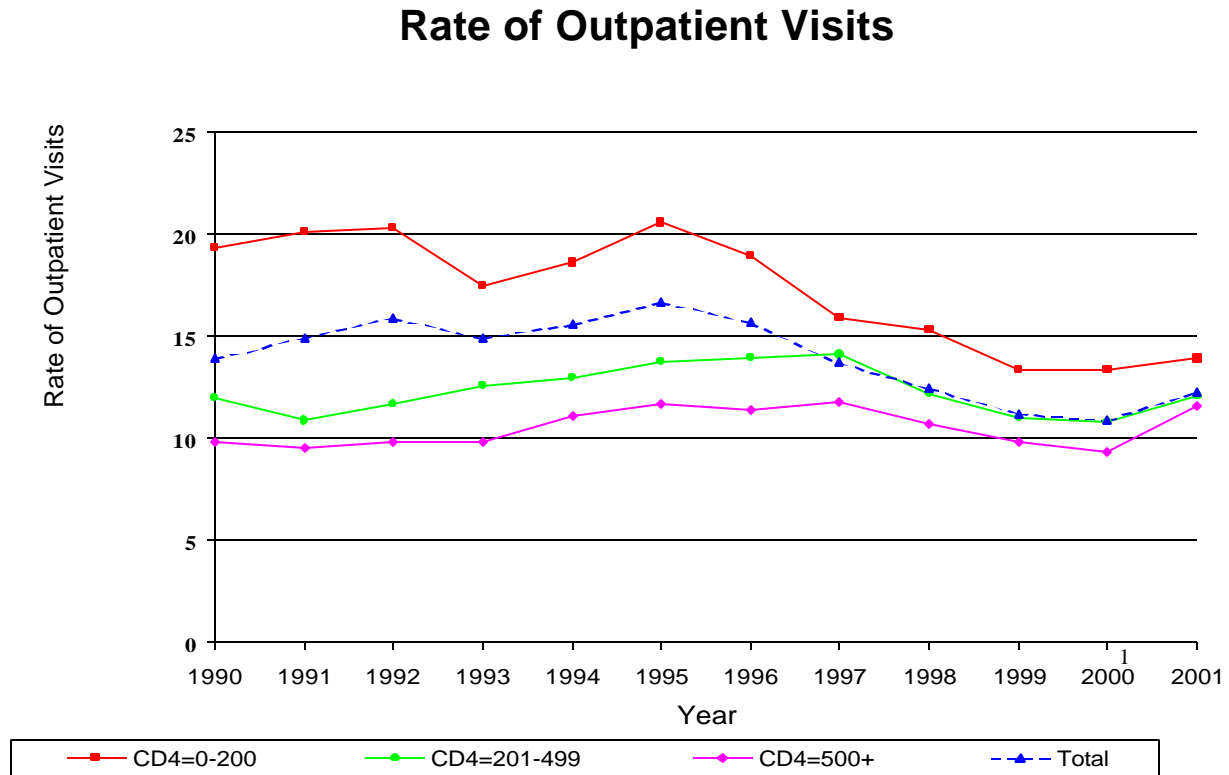
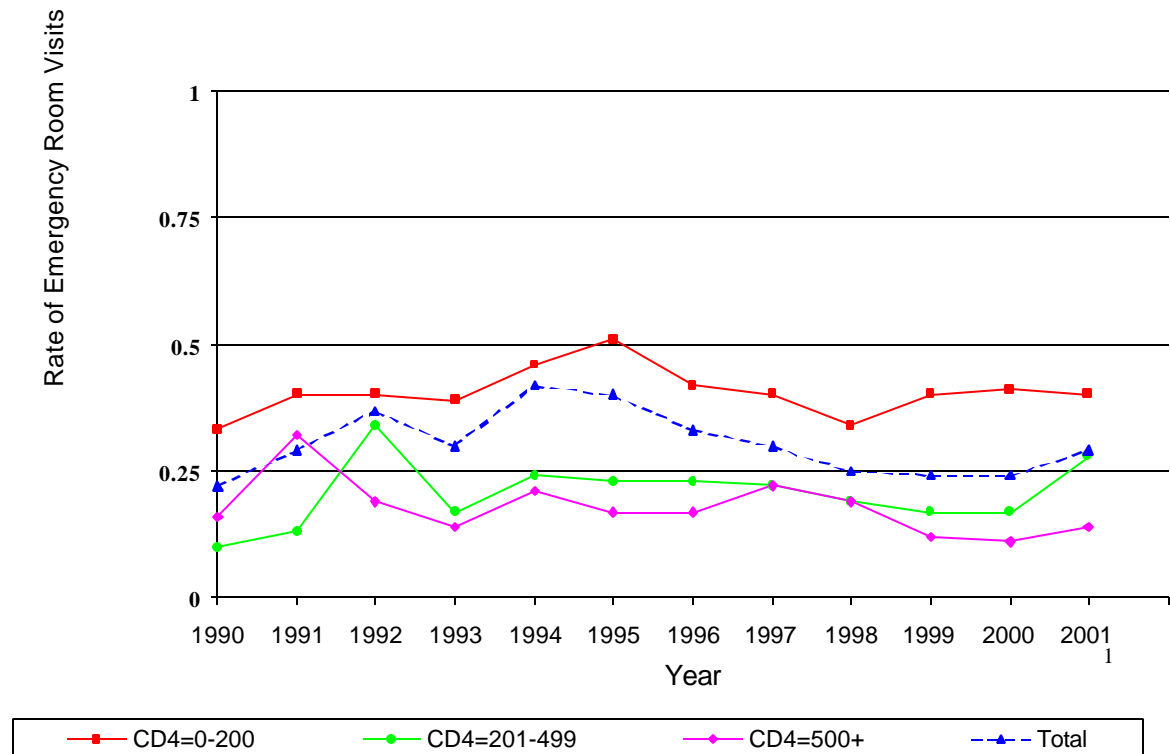


Figure 7. Rate of Emergency Room Visits



¹ Total includes patients without a CD4 Count..

**Figure 8. Health Service Utilization (per person per year)
by Range of Lowest CD4, 1990-2001**

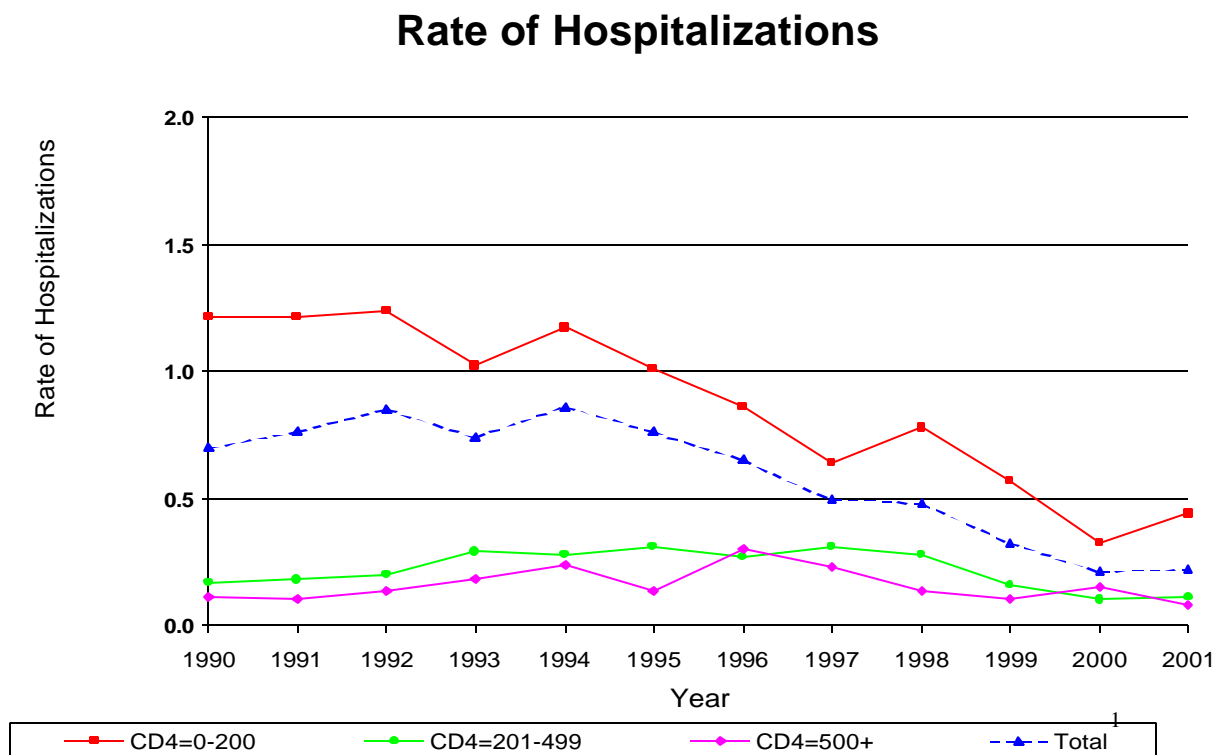
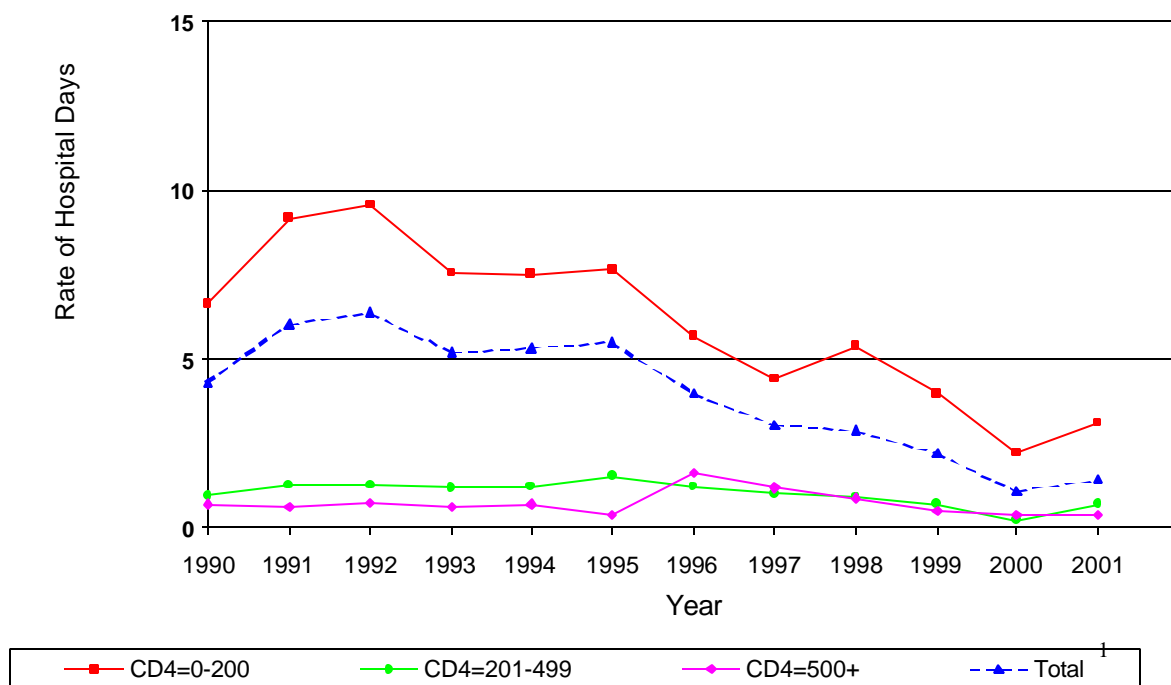


Figure 9. Rate of Hospital Days



¹ Total includes patients without a CD4 Count..

Figure 10. Lowest CD4 Count among ASD Patients in a Given Year, 1990-2001

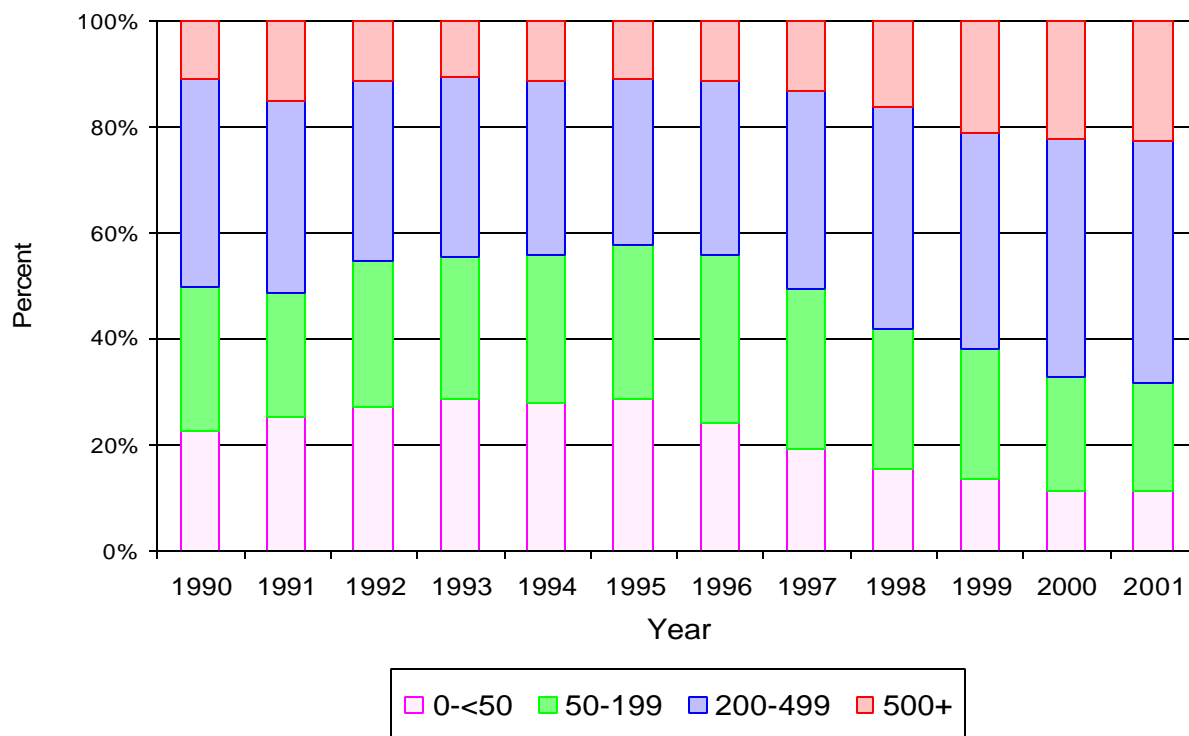
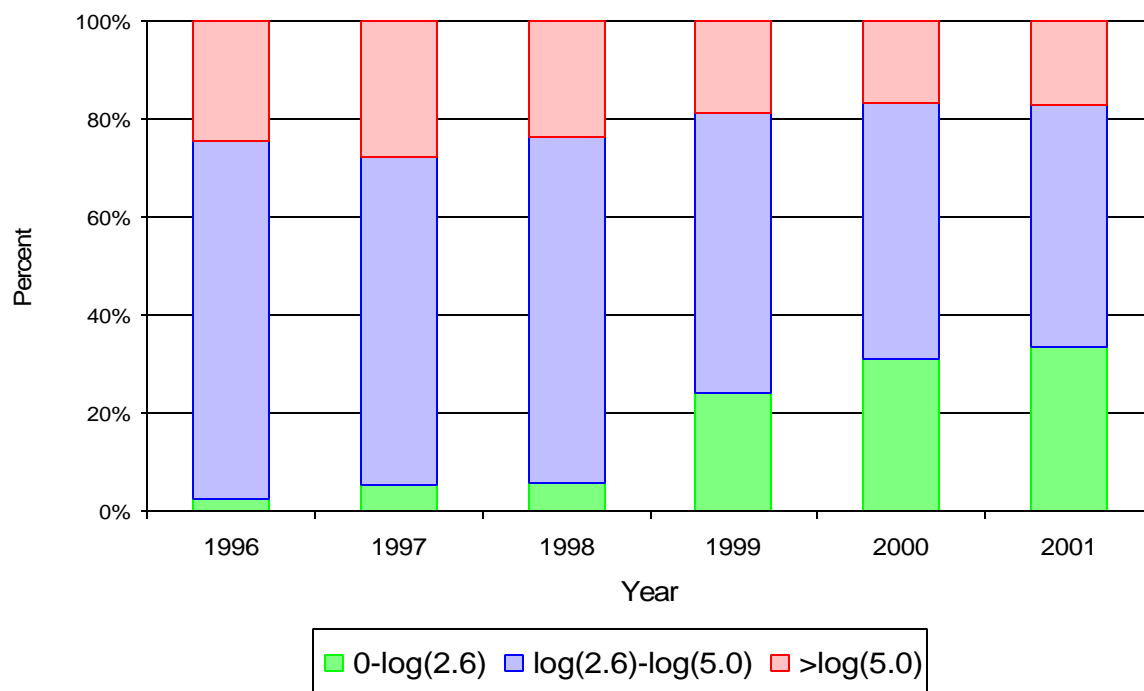


Figure 11. Highest Viral Load among ASD Patients in a Given Year, 1996-2001



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(CDC-authored publications and abstracts are indicated by bold-faced type. Copies of these are available from the Surveillance Branch, Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention, 1600 Clifton Rd., Mailstop E-47.)

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